

REMARKS

Claims 1-2, 7-12, and 21-23 are pending in this application. In the Final Office Action, claims 9 and 20 are rejected under 35 U.S.C. § 112, first paragraph for allegedly including subject matter not described in the specification; claims 1-2, 7-8, and 22-24 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,851,905 (McIntosh et al.); and claims 9-12, and 21 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,359,292 (Sugawara et al.).

By this amendment, Applicants have amended claims 1, 9, 21, and 22, and canceled claims 20 and 24, without prejudice. Reconsideration in view of the following remarks is respectfully requested.

With regard to the Office's rejection of claims 9 and 20 under 35 U.S.C. § 112, first paragraph, Applicants note that claim 9 does not claim "applying a quaternary layer of AlInGaN on another quaternary layer of AlInGaN." Applicants have herein canceled claim 20, without prejudice. As a result, Applicants respectfully request withdrawal of this rejection.


With regard to the Office's rejections of claims 1-2, 7-8, and 22-24, the Office alleges that "it would have been obvious... to apply the ternary layer directly on the substrate without applying the buffer layer... to eliminate the benefit of presence of the buffer layer..." Applicants respectfully submit that the Office misinterprets the purpose of the ternary layer. In particular, the ternary layer, *inter alia*, acts as a buffer layer. Applicants have herein amended claim 1 to clarify this function. The inclusion of Indium in the buffer layer is unique since prior art buffer layers typically comprised AlN, GaN, or AlGaIn. Further, the inclusion of Indium in the buffer layer improved the quality of devices produced. As a result, Applicants respectfully submit that a

buffer layer that includes Indium would not have been obvious to one of ordinary skill in the art and request withdrawal of this rejection.

Applicants previously claimed the inclusion of Indium in a buffer layer in claim 21. In response, the Office alleges that "the inclusion of In in buffer layer... is well-known to one of ordinary skill in the art of making semiconductor devices." Applicants respectfully submit that the inclusion of In in a buffer layer is unique to Applicants' invention. As a result, Applicants respectfully request that the Office furnish documentary evidence in order to maintain this rejection.

In light of the above, Applicants respectfully submit that all claims are in condition for allowance. Should the Examiner require anything further to place the application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the number listed below.

Respectfully submitted,



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